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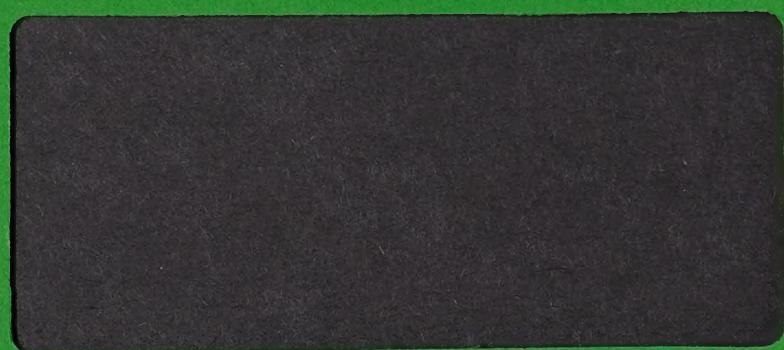


**the ROYAL COMMISSION on the
NORTHERN ENVIRONMENT**

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PLANNING FOR
ENVIRONMENTALLY SENSITIVE AREAS
IN NORTHWESTERN ONTARIO

**Funding Program
Report**



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ROYAL COMMISSION ON THE NORTHERN ENVIRONMENT

J.E.J. FAHLGREN, COMMISSIONER

PLANNING FOR
ENVIRONMENTALLY SENSITIVE AREAS
IN NORTHWESTERN ONTARIO

by:

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March 1980

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Table of Contents

	Page
Acknowledgements	i
Introduction	1
Values of Environmentally Sensitive Areas	5
Parks and Environmentally Sensitive Areas	9
Sensitive Areas in the Northwestern Region	14
Environmentally Sensitive Areas Criteria	18
Land Requirement for ESA's	25
Discussion	27
Conclusion	31
Literature Cited	34

Figures and Tables

Figure 1	Provincial Parks and Park Reserves	13
Figure 2	Sensitive Areas Which Fulfill At Least One of the Proposed Criteria	15
Table 1	Sensitive Areas Which Fulfill At Least One of the Proposed Criteria	16

Appendices

Appendix 1	Geometric Principles for the Design of Nature Reserves	36
Appendix 2	MNR Sensitive Areas and Features Report Form	37

INTRODUCTION

The purpose of this submission to the Royal Commission on the Northern Environment is to examine the question of protection of natural landscapes or Environmentally Sensitive Areas (ESA's) in northwestern Ontario. The term "Environmentally Sensitive Area" was first used in southern Ontario referring to "any area designated in an official plan to inform the general public, that the area so named and defined - is recognized as containing a representative ecosystem, whose biological and ecological status should be maintained, preserved and protected for the present and future inhabitants" (Adindu and Eagles, 1977). The Regional Municipality of Waterloo was the first to include sensitive areas in an approved municipal official plan in 1975. This precedent provided momentum for counties and municipalities such as Halton, Hamilton-Wentworth, South Wellington, Peel, York and Ottawa-Carlton to initiate ESA planning.

The Ministry of Natural Resources has been involved in sensitive area planning since about 1974 (Ministry of Natural Resources, 1974). The Guidelines for Land Use Planning (1974) states that "an inventory and evaluation of sen-

sitive areas and features will be made". In the West Patricia Land Use Plan (north of 50⁰) Ministry of Natural Resources will refer to sensitive areas as "special" areas (John Scott, pers. comm.). The present policy for sensitive areas is now being reworked by the Head Office in Toronto and will likely contain some regional differences to account for differences in land use (Mike Millar, pers. comm.).

My experience in southern Ontario with ESA planning has increased my awareness of the differences in designating ESA's after most of the land has been degraded by other land uses or has come under private ownership. In southern Ontario, protection of certain areas of land is only now being considered. This is at a time when there is very little natural land left. One major problem is that most of the ESA's in southern Ontario are under private ownership and it is difficult to have much control over how these areas are protected or managed. It is also difficult to purchase these lands due to the extremely high cost involved. Another factor is that many of the ESA's have been degraded by various means and are not representative natural landscapes. Impacts include pollution from residential and/or industrial areas, trampling from recreational use, and logging.

A principal hypothesis of this paper is that development and exploitation of northwestern Ontario resources is presently occurring at a rapid rate and will likely continue. Land use policy should therefore include detailed criteria for the long term protection of representative natural landscapes and natural diversity in the northwestern Ontario region.

The major development affecting northwestern Ontario at the present time is cutting of black spruce and jack pine for pulp and paper. The forest products industries are now clear cutting huge areas of previously uncut forest without environmental assessment and with questionable regeneration techniques. The forests around Thunder Bay and close to other mills in northwestern Ontario have already been "plundered" (Hearndon, pers. comm.).

The criteria discussed for ESA's in this paper are for areas which are important from an earth and life science standpoint. Historical areas are important also but they should be dealt with using separate criteria. Some of the main issues I would like to address are:

- (a) The Values of Environmentally Sensitive Areas.

- (b) The Relationship Between ESA's and Provincial Parks.
- (c) Sensitive Areas in the Northwestern Region.
- (d) Environmentally Sensitive Areas Criteria.
- (e) Land Area Requirements for ESA's.

(a) Values of Environmentally Sensitive Areas

At the present time it may be difficult for people to comprehend why ESA's are needed in northwestern Ontario. Development appears to be limited and the natural land area is vast. The appearance of widespread wilderness is not totally by accident. Along major highways, strips of forest are preserved so that driving through northern Ontario one will see virtually no logging. One must travel by plane or drive the logging roads to see the actual impacts of the pulp and paper industry.

The value of protecting natural landscapes has been described in many papers. Some of these deal with wilderness values (Gardner, 1978; Addison and Bates, 1974) and some specifically with the values of ESA's (Adindu and Eagles, 1977; Eagles, 1979). I would like to briefly review some of the values of sensitive areas categorized under specific values.

Cultural - Social Values

The unknown components of natural landscapes have served as important attractions and challenges to mans capabilities. Man has dealt with these unknown aspects

through various forms of exploration. The development of the human mind has relied on this exploration and learning process through such forms as science, art and religion (Gardner, 1978). The variety and diversity of nature has also been important in providing inspirational value to man.

Natural areas also provide for risk taking and variation in our lives. Risk-taking behaviour and exploration, represented in one form by natural areas, are essential to development and well being (Gardner, 1978). Natural areas allow for variation in stimulation and escape from over-stimulation which contribute to the normal development and function of organisms (Gardner, 1978). Natural areas also allow for diversity of human experience and provide contrasting values to the urban lifestyle.

Historical

Natural areas have historical value in preserving the geological and biological history of an area. The soils and rocks record how an area was formed and also when it is formed. The plant species of an undisturbed ecosystem give an indication of what surrounding disturbed systems may have once looked like. In this sense, preserving natural areas has value in providing natural heritage for future generations to view and experience (Addison and Bates, 1974).

Scientific

ESA's are most important from a scientific point of view since they provide relatively undisturbed remnants of the natural ecosystem for study purposes. Natural landscapes are important in providing a base datum of normality as a reference point for research and management studies (Addison and Bates, 1974). Natural areas for scientific study must therefore be a minimum size so that they are preserved intact, are self-regulating and self perpetuating. It is irrational to destroy representative ecosystems without fully understanding their processes and therefore their significance.

Economic

A common view, until fairly recently, has been that natural resources are unlimited and free for the taking. Gradually this is changing and we are realizing that natural resources are not unlimited and that many economic values are provided by natural lands. As an example, it is being recognized that forests can be important in water purification and in reduction of the frequency of floods. Millions of dollars each year are spent by conservation authorities in Ontario to artificially reduce flooding. This flooding

is largely due to the reduction of forest cover in watersheds.

Natural areas are also important in providing aesthetic diversity and natural landscapes important to the tourism industry in northwestern Ontario. Preserved forest stands may also provide valuable undisturbed areas for management studies by the forest industry in the future. Understanding the natural dynamics of the forest could be helpful in improving future forestry practices.

The future costs of reversing a decision of resource extraction may be much greater than the cost of reversing a decision to preserve a natural area (Eagles, 1979). Further, commitment of an area to resource extraction may be irreversible at any cost as it is not necessarily possible to "regenerate" natural areas.

(b) Parks and Environmentally Sensitive Areas

Provincial Parks and Environmentally Sensitive Areas have various goals in common and it is therefore useful to discuss and distinguish the two systems.

The Ministry of Natural Resources distinguishes the two in one way by administering them under different branches. Parks are administered under the Parks Branch and sensitive areas are administered under the Lands Branch.

ESA's, as defined by the criteria, are similar to Parks only under their protection objective which is "to protect provincially significant elements of the natural and cultural landscape of Ontario" (Ministry of Natural Resources, 1979). "Provincially" is the important word here. Using a classification of Ontario of site regions, the effort in provincial parks is to represent as many site types as possible in each site region. Therefore, this is a system which attempts to represent only natural areas of provincial importance.

Environmentally Sensitive Areas, alternatively, are areas which have local or regional significance. They may also be generally smaller in size, although this need not

necessarily be the case. In southern Ontario, the usual administrative boundary for sensitive area policy is the Regional Municipality or County. Administrative boundaries in Northern Ontario should be the MNR District since this is presently the government ministry responsible for sensitive areas and since they administer a large proportion of the land in the north.

The provincial park system places strong emphasis on recreation as an objective and as a result, recreation demand has been the major influence in determining the present park system (All provincial parks in the northwestern region are recreation class parks). The situation is gradually changing as many of the park reserves are evaluated on the significance of natural features. Environmentally Sensitive Areas are evaluated strictly on the protection of significant natural features. This does not, however, exclude them from providing aesthetic and natural diversity to passive recreation oriented users.

Environmentally Sensitive Areas are evaluated by inventorying the potential areas at a species specific level rather than using the broader site type classification of the parks system. The species level is important to sensitive

area planning since this is ultimately the basis for life science diversity. This level of detail has been found to be necessary in evaluating areas at a more local level (Adindu and Eagles, 1977).

The above should not be taken as criticism of the provincial parks system. It is only intended to point out that although the two systems are similar they do have differences in end result.

Provincial parks and ESA's should be considered as having compatible objectives and as both being necessary systems.

Neither program will totally meet the requirements of the other. A good example of this is the Regional Municipality of Waterloo where there are no provincial parks but where approximately 6% of the Region has been designated in the official plan as ESA's.

There is a need in Ontario for larger reserves which will protect areas of undisturbed habitat for the larger mammals in northwestern Ontario. At the present time, the provincial park objective in the Northwestern Region is to

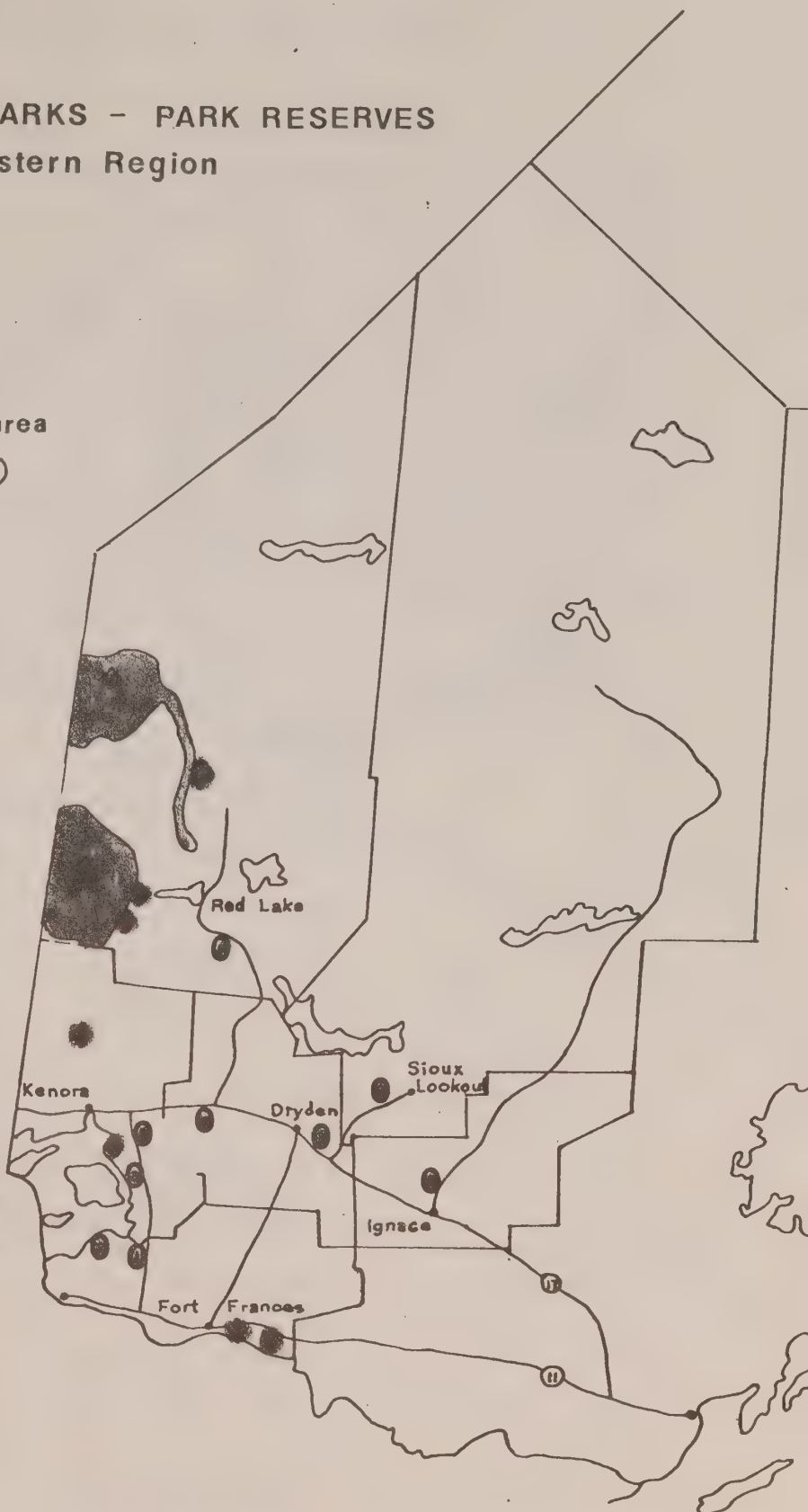
put one wilderness park in each site region, averaging about 385 square miles and with a minimum size of about 193 square miles. This would mean about 13 wilderness parks in Ontario. It still remains to be seen whether or not objectives will be met. There are two wilderness park reserves in northwestern Ontario, Stout Lake and Woodland Caribou, however; as yet they do not have official status (Figure 1).

A proposal by Addison and Bates (1974) conflicts with the provincial parks system regarding the size of wilderness reserves. Their proposal is that wilderness areas should be an average size of 1,500 square miles and a minimum area of 750 square miles. The proposal recommends 12 to 15 reserves in Ontario.

I do not wish to go into detail on the merits of either proposal, however, I would like to suggest that a wilderness reserves system is necessary. This is especially true in northern Ontario since this is the last refuge for some of the large mammals, (eg. cougar, wolverine) which require undisturbed, large natural areas. ESA's could be very important satellite areas connected by natural corridors to these larger reserves.

FIG. 1 PROVINCIAL PARKS - PARK RESERVES
Northwestern Region

	approx. area
● Parks	(acres)
1 Caliper Lake	2 47
2 Lake of the Woods	2,713
3 Sioux Narrows	325
4 Rushing River	475
5 Blue Lake	875
6 Pakwash	1,577
7 Aaron	173
8 Ojibway	6,572
9 Sandbar Lake	7,898
● Park Reserves	
1 Stout Lake	545,480
2 Berens-Dowling	77,113
3 Woodland-Caribou	902,015
4 Lund Lake	7,127
5 Telescope Lake	14,905
6 Pipestone Peninsula	3,575
7 Sandpoint Island	2,220
8 Pow-Wow-Grounds	1,752
9 Pistol Lake	4,098



(adapted from MNR 1979)

(c) Sensitive Areas in the Northwestern Region

In the Northwestern Region, each MNR district is responsible for designating and recording sensitive areas. Sites are recorded on standard data sheets (Appendix 1) and added periodically to a sensitive areas binder. The following results were compiled during December, 1979 from district reports filed in the Kenora Regional Office (see Table 1 and Figure 7).

In the Northwestern Region the sensitive areas which have been designated by the Ministry of Natural Resources fall into five categories:

- 1) Fish and Wildlife
- 2) Vegetation
- 3) Historical
- 4) Geological
- 5) Cultural

The total number of acres involved is difficult to estimate since for many of the areas the boundaries are not defined. There is a total of 182 sites in the Northwestern Region. Of these, 81 or about 45% would meet one or more of the criteria proposed in section (d) of this paper. About one half of these 81 sites (40 sites) are designated to protect 3 species: in pickerel spawning grounds, bald eagles

Fig. 2 MNR Sensitive Areas which fulfill at least 1 of the proposed criteria*
in the Northwestern Region

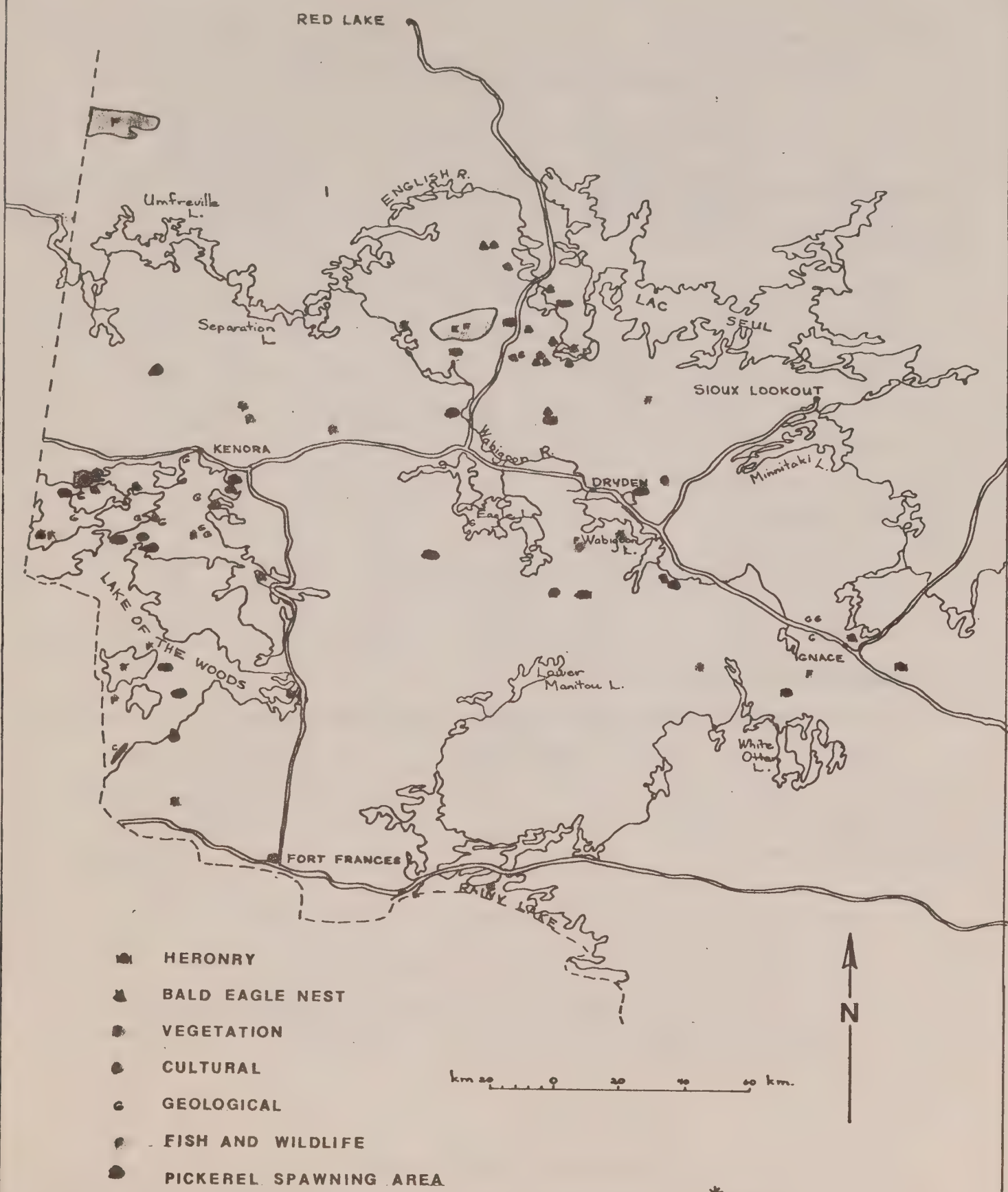


Table 1 MNR Sensitive Areas Which Fulfill at Least 1
of the Proposed Criteria in the Northwestern Region*

MNR Northwestern Region DISTRICTS	Fish + Wildlife Sensitive Areas					Vegetation Sens. Areas			Geological Sens. Areas	Cultural Sens. Areas	Total	% of Sens. Areas
	Bald Nest Eagle	Heronry	Pickeral Spawn Areas	Other	Total	Seed Tree Areas	Other	Total				
Dryden	15	8	1	3	27	3	2	5	2	2	36	44
Kenora	1	6	6	6	19	3	4	7	8		34	42
Ignace	1	2		1	4				3		7	9
Fort Frances							1	1	1	2	4	5
Red Lake												
Sioux Lookout												
Total	17	16	7	10	50	6	7	13	14	4	81	*
% of Sensitive Areas	21	20	9	11	62	7	9	16	17	5	100	*

* This chart includes 81 of the 182 sensitive areas in the Northwestern Region, The others are mainly historical sensitive areas.

(compiled from District Sensitive Area Reports)

nesting and heronries. These are important species and they should be protected, however, it illustrates that there is an imbalance in representation of the region's diversity in sensitive areas. The diversity of flora in the region is also poorly represented by sensitive areas and almost one half of floral areas are for tree seed production.

Within each district there is inconsistency as to what sensitive areas are. For example, Dryden District has designated 15 of the 17 bald eagle nests. The other districts do not emphasize bald eagle nests in their respective sensitive area reports.

There is also inconsistency from district to district as to the management of similar areas. For example, logging will not be allowed in a woodland caribou sensitive area in Kenora District. However, in a similar area in Dryden District the recommendations for use suggest, "selective cutting should be carried out within this area".

There is a need to resolve some of these problems and inconsistencies with a well defined policy and with specific management guidelines for sensitive areas.

(d) Environmentally Sensitive Areas Criteria

Absolutely essential to the planning of ESA's are clearly defined criteria which will guide the resource planner to decisions about which sites should be included.

At the present time, the Ministry of Natural Resources does not have a policy or criteria available for the designation of ESA's. Their past criteria have been quite qualitative and very weak in this area. Recent comments from the Ministry of Natural Resources have suggested that this is a "confused" area within the ministry (Eagles, 1979) and that ministry sensitive areas study is a "gray area" (Scott, pers. comm.).

I would recommend the use of criteria which have been extremely useful in southern Ontario municipalities. These criteria were formulated by Adindu and Eagles (1977).

The criteria for designation of an area could include any one or a combination of the following:

- (1) The area represents a distinctive and unusual land-form within the district, municipality, Ontario or Canada.
- (2) The ecological function of the area is vital to the healthy maintenance of a natural system beyond its boundaries, such as water storage or recharge area, important wildlife migratory stopover or concentration points, or linkage of suitable habitat between natural biological communities.
- (3) The plant and/or animal communities of the area are identified as unusual or of high quality locally within the district, municipality, Ontario or Canada.

- (4) The area is unusual habitat with limited representation in the district, municipality, Ontario or Canada, or a small remnant of particular habitats which have virtually disappeared within the community.
- (5) The area has an unusually high diversity of biological communities and associated plants and animals due to a variety of geomorphological features, soils, water, sunlight and associated vegetation and micro-climatic effects.
- (6) The area provides habitat for rare or endangered indigenous species that are endangered regionally, provincially or nationally.
- (7) The area is large, [larger than 1,000 acres (405 hectares)] potentially affording a habitat for species that require extensive blocks of suitable habitat.
- (8) The location of the area, combined with its natural features, make it particularly suitable for scientific research and conservation purposes.

- (9) The combination of landforms and habitats is identified as having high aesthetic value in context of the surrounding landscape and an alteration would significantly lower its amenity value.

Areas can be rated according to the number of criteria that are fulfilled. An area would have an A status if it fulfilled 4 or more of the criteria; B status if it fulfilled 1 to 3 criteria; and C status where data is lacking.

These criteria are thorough and detailed to include standards for the preservation of all ecosystems and species in a municipality or district. However, since they are criteria which were formulated with the southern Ontario situation in mind, there are some problems which must be overcome to apply them in northwestern Ontario.

One of the problems is that there is much less natural area left in southern Ontario (3 - 20%) to evaluate than in northwestern Ontario (up to 95%).

This vastness of northwestern Ontario natural resources will mean that the effort required for evaluation of ESA's will be greatly increased. There is a need then,

to formulate priorities for study in northwestern Ontario.

Another problem in northwestern Ontario is that the status and biogeography of the flora and fauna is poorly understood. The nearest research institution is Lakehead University, and in terms of the flora of the boreal forest, there has not been much botanical work done north of the English River (Claude Garton, pers. comm.). English River is just within the southern boundary of the boreal forest region (Rowe, 1977) and yet the boreal forest accounts for the largest part of northwestern Ontario.

Another example of the poor documentation of the boreal forest is that the Parks Branch of the Ministry of Natural Resources has not yet delineated the extent of specific forest associations in the Northwestern Region (John Scott, pers. comm.).

It is therefore, almost impossible to now evaluate an area or species on the basis of whether it is "rare, endangered or unusual" since the biogeography is so poorly documented. This also emphasizes the need to establish some priorities for evaluation of potential ESA's so that this work can be phased in over a longer period of time.

Another difficulty with the criteria is that they are somewhat biased towards the destruction of habitat since an area or species becomes "rare, endangered or unusual" only by occupying a small area or existing in small numbers. This may hinder the foresight required in northwestern Ontario to set aside a section of representative habitat because it is not presently "rare, endangered, or unusual" even though this status might be foreseen.

To account for these problems in developing an ESA policy for northwestern Ontario there should be a minimum land area requirement for the protection of sensitive areas. That is, a specified percentage of land should be reserved for Environmentally Sensitive Areas. A policy such as this will recognize the importance of preserving the diversity of the region, despite whether the significance of every sensitive area can be totally documented at present. It also imposes a standard with which resource managers can plan well into the future and reduces the problem of unexpected withdrawals of resources which would affect management of a particular natural resource. Note that the proposed criteria would still be used to evaluate and compare areas of similar habitat within the minimum land area designated.

Without a minimum land area requirement, it would be necessary to inventory prohibitively large areas in north-western Ontario in order to justify designation of ESA's totally on the proposed criteria. This would be unrealistic because of the cost involved and the time necessary for a total inventory. Again, municipalities in the south have been able to use the criteria since the natural area to be inventoried is comparatively small.

A minimum land area requirement provides the ESA planner with the same flexibility allowed to the pulp and paper interests. Note that industry can cut areas with virtually no study of environmental impacts due to the exemption of private companies from the Environmental Assessment Act. The ESA planner, on the other hand, will likely have to totally justify every 10 acre withdrawal with a complete inventory unless there is a minimum area requirement.

(c) Land Area Requirements for ESA's

The land area that will be required for ESA's is not a foregone conclusion since there are a number of factors which interplay to make exceptions to any specific area. In southern Ontario, the natural landscape remaining in municipalities varies from 3% to 10%. In the municipalities and counties which have carried out ESA planning in Ontario, approximately 5% to 8% of the total land area has been designated as Environmentally Sensitive Areas (Paul Eagles, pers. comm.). To compare this with a situation in northwestern Ontario, Ignace MNR District has established one provincial park (Sandbar Lake Provincial Park) which is 7,787 acres or .27% of the total area of the district. Designated sensitive areas within the same district now comprise only about a dozen acres. In the whole MNR Northwestern Region the present provincial park system represents only about .38% of the total land area.

I propose that a minimum of 5% of the land area of each district and therefore 5% of the Northwestern Region be set aside as undisturbed Environmentally Sensitive Areas. This is the minimum ESA area that has been designated in southern Ontario. It may be argued that the land use is

different and less intensive in northwestern Ontario to justify protection of an area similar to southern Ontario. This is somewhat true, however, the silvicultural techniques of the major land use in northwestern Ontario are just as intensive as agricultural techniques in southern Ontario. This includes mechanical harvesting, chemical spraying to control poplar and insects, scarification (silvicultural equivalent to plowing) and aerial seeding. The point should also be made that even with the preservation of 5% to 8% of the land area in southern Ontario there have been extinction of several mammal species due to habitat loss (Campbell et al, 1972).

Along with the criteria of 5% minimum land area there must be further conditions to ensure that the diversity in each district is maintained. Without conditions, theoretically the 5% could be used to set aside only one type of habitat or open water. This would obviously not contribute to the protection of diversity or the protection of representative habitats within the district.

Discussion

The following are additional guidelines and conditions:

- 1) Major land uses (mainly forestry at present) should have 5% of proposed development zones set aside for ESA's. Priority study areas will be those proposed for earliest development. This will ensure that there is a diversity of habitats preserved in the natural state, and that they are randomly distributed over the whole district.
- 2) The area removed for ESA's should only include those land areas of interest to the land user in question. For example, areas designated to preserve habitat in potential logging areas will only include forested land scheduled to be cut and not be "padded" by peatlands, lakes, etc.
- 3) The 5% could include sections of provincial parks or wilderness reserves if it is determined that these areas represent and protect habitat equally as well as alternative ESA sites proposed for development. Shoreline reserves should not be included as ESA's since their 400 foot width is too narrow to be a self contained

ecosystem. The "edge effect" caused by increased sunlight and other factors on shoreline reserves could disturb the original natural community dramatically.

- 4) The ESA's may be in large blocks or several smaller blocks. Variation in size and shape of ESA's should follow the basic principles of island biogeography in order to maximize species numbers (Appendix 1).
- 5) The evaluation of ESA's should be carried out by ministry personnel and consultants with expertise in the earth and life science fields. These researchers should use the proposed criteria to rate alternative sites.

To implement an ESA program such as the one proposed in this paper there would need to be some additional staff hired by the Ministry of Natural Resources. The first step would ideally involve hiring a permanent conservation biologist or planner in each district and in the regional office as part of the Lands or Parks Branch.

These staff could set out priority areas that need to be studied to represent the natural diversity within each district. They could also draw up an overview of the life

science and earth science features of the district to give a clearer picture of the location and abundance of specific ecosystems and species.

A permanent staff member could also organize summer programs to gather further data on specific priority areas for evaluation by consultants or summer students. Much of the information compiled would be useful to the Parks Branch which is very understaffed in the Northwestern Region.

This program may be considered to be prohibi-
tively expensive. However, if a sensitive areas program is to be seriously undertaken, not only as proposed in this paper but also as the Ministry of Natural Resources has proposed, then additional manpower is required.

Costs will have to be paid eventually even if incremental, short-sighted planning is practised. In many cases these costs will be much greater than if areas were set aside earlier in the planning process. A good example of this is the move by a conservation authority to protect Rattray Marsh near Toronto. The cost of expropriation to protect the marsh exceeded three million dollars for 84 acres (Hanna, 1979).

Many of these battles to save small natural remnants in Southern Ontario will be fought in the future and many will likely be lost. Hopefully northwestern Ontario will learn from these examples and will conserve public funds by setting aside areas before rather than after development occurs.

Conclusion

ESA planning in Ontario has increased significantly in recent years. Universities, consultants, and government departments are now involved in several phases of the planning for environmentally sensitive areas. In northwestern Ontario, however, planning for ESA's is not yet taken very seriously. Hopefully, the Ministry of Natural Resources' long awaited policy concerning sensitive areas will be forthcoming soon and will contain some of the elements outlined in this paper. In the meantime, MNR staff seem to be attempting to absolve themselves from responsibility for sensitive areas by suggesting that it is up to "public demand" to judge what areas are sensitive. I have heard this comment from MNR employees myself (Scott and Harris, pers. comm.) and it has been documented by Eagles (1979). It is also reinforced in the approach to policy in northwestern Ontario regarding wilderness parks: "requires full study and understanding by northern residents themselves" (MNR, 1974).

In this regard, I would like to make two points. ESA study in southern Ontario has shown that location and identification of sensitive areas must be based on a thorough resource inventory by life and earth scientists. It is

impossible to expect the public to accomplish this, especially without funding to do so.

My second point is that MNR does not plan in this manner for any other type of land use. In such areas as parks, mining, and forestry the procedure is to have experts do the background work and then to present it to the public for reaction. This should also be the procedure for sensitive areas.

I have also listened to MNR staff who tell me that it is not their mandate to protect sensitive areas. I find this difficult to accept especially considering the goal of the MNR, "... to administer, protect and conserve public lands and waters". The point should also be made that MNR has already committed itself to sensitive areas in northern Ontario. Many areas are listed as "should be protected" in MNR's own sensitive area reports.

Without an ESA policy I would predict that many representative natural areas will be lost in the near future in northwestern Ontario. The unfortunate thing is that this will go largely unnoticed until it is too late.

An excellent example of this was presented to me at Lakehead University. Just west of Thunder Bay, university staff are attempting to prevent logging of one of the last virgin white pine stands in the district (Garton, pers. comm.). A logging road has already been constructed through the stand and it is difficult to tell at present what will happen to the area. In this regard, the Dean of Forestry at Lakehead University has pointed out that there should be an "aggressive effort" to preserve representative natural areas in northwestern Ontario (Hearndon, pers. comm.). It is my sincere hope that some of the recommendations and guidelines presented in this paper will contribute to that effort.

Literature Cited

Addison, W.D. and J.D. Bates. 1974. Wilderness in Ontario Parts 1 and 2. Ontario Naturalist. Federation of Ontario Naturalists. Vol. 14 No. 1 and 2.

Adindu, G. O. and P.F. Eagles. 1977. A Manual For Environmentally Sensitive Area Planning and Management. University of Waterloo, Waterloo. 95 pp.

Campbell, C. A., A. I. Dagg, M. Dyer and M. E. Gartshore. 1972. Mammals of Waterloo and South Wellington Counties. Waterloo.

Eagles, P. F. J. 1979. The Institutional Arrangements For Environmentally Sensitive Area Planning and Management in Ontario. PhD. Thesis. University of Waterloo. Waterloo.

Eagles, P.F.J. Department of Recreation, University of Waterloo, Waterloo, Ontario. Personal Communication, March 1980.

Gardner, J.S. 1978. The Meaning of Wilderness: A Problem of Definition. Contact. Faculty of Environmental Studies, University of Waterloo. Waterloo.

Garton, C. E. Curator of Herbarium, Lakehead University, Thunder Bay. Personal Communication, December 1979.

Hanna, E. 1979. Rattray Marsh: A Pyrrhic Victory? Ontario Naturalist. Federation of Ontario Naturalists. Vol. 19, No. 2.

Harris, A. Junior Planner, Ministry of Natural Resources, Kenora, Personal Communication, December 1979.

Millar, M. Land Use Planning Supervisor, Ministry of Natural Resources, Personal Communication, Toronto, January, 1980.

Ontario Ministry of Natural Resources. 1974a. Guidelines for Land Use Planning. Ontario Ministry of Natural Resources, Toronto.













Ontario Ministry of Natural Resources. 1974b. Background Information and Approach to Policy - Northwestern Region Strategic Land Use Plan. Ontario Ministry of Natural Resources. Toronto.

Ontario Ministry of Natural Resources. 1979. Draft Regional Park Systems Plan Phase 1 Northwestern Region. Ontario Ministry of Natural Resources. Kenora.

Rowe, J. S. 1972. Forest Regions of Canada. Department of Fisheries and the Environment. Canadian Forestry Service Publication No. 1300. Ottawa.

Scott, J. Regional Parks Branch. Ministry of Natural Resources. Personal Communication, December 1979, Kenora.

Appendix 1 GEOMETRIC PRINCIPLES FOR THE DESIGN OF NATURE RESERVES

	BETTER	WORSE	
large reserve			small reserve
single reserve			divided reserves
closely grouped reserves			widely spaced reserves
block group of reserves			linear group of reserves
linked reserves			unlinked reserves
circular or block reserves			linear reserves

(adapted from Eagles (1979) quoting Island Biogeography and the Design of Nature Reserves, J.M. Diamond and R. M. May, 1976)

Sensitive Areas and Features Report Form

Location Map Scale 1:50,000 or 1:250,000

Encircle and/or place arrow to indicate exact site

Category Code
V - Vegetation
W - Fish and Wildlife
G - Geology and Land forms
H - Historic and Cultural
C - Complexes

District

Category and Number

Local Name

Significance

Source

Township or Basemap

Lot

Concession

Ownership

Date

Description —

Potential for Damage —

Recommendations for Use and Protection —

Photographs / Sketches / Maps / Additional Information

District

Category and Number



